

Submitting Artifacts to the Metrology Lab

To ensure artifacts are ready for calibration before delivering devices to the Metrology Lab, devices should be clean and in an “acceptable condition” ready to calibrate. It is the owner's responsibility to insure that the artifact(s) meet any physical specifications required for the desired tolerances such as composition, finish, painting, density, etc. Any “unacceptable condition” may result in the device being rejected and returned to the owner at the owner's expense without being calibrated.

Acceptable Condition for Standards

Mass Standards: Must be clean and void of any residue or stickers (If there are stickers, the lab will not calibrate them). If standards are dirty they should be wiped down with a lint free cloth and if they still have residue then they can be gently wiped down with 90% isopropyl alcohol. If alcohol is used, the lab MUST be informed as this will affect calibration procedures. No cushioning material from the container should be present on the artifact. If the foam is flaking off onto the standards on a regular basis, it is recommended to get a new container. When wrapping mass standards, use lint-free tissue paper.

Mass standards less than 10 pounds must be stainless steel or aluminum, no brass, cast iron, gold plated, or chrome plated weights. Do not paint any mass standards that are not cast iron.

Cast Iron Standards: Cast iron standards must be clean with no peeling paint. If the handle is welded in place, the welded seam must be continuous with no air holes or cracks. If re-painting is needed, use a wire brush to clean and remove rust, and paint artifact silver for avoirdupois standards and gold for metric standards. Enamel paint is not recommended. Do not use sandpaper and do not sandblast the device. Pressure washing is not acceptable.

Test Measures/“J” Prover: Must be stainless steel or mild steel, clean and with no residue inside or outside. Mild steel test measures must be painted; red is the traditional color (Make sure to not paint over the plate containing the artifact specifications). No rust, flaking paint or leaks. If the test measure leaks when filled with water, it must be repaired prior to submission. It is highly recommended to perform a leak test by filling the test measure with water and leaving it for at least two hours to check if any of the water leaked out of the artifact. A front gauge plate is required and must be properly secured to the artifact. The glass tube cannot be broken and the gauge plate and seal cannot be missing. The gauge plate must be legible. Bands cannot be damaged. We are unable to solder or

provide replacement parts of any kind. Dented test measures are not acceptable as dents result in a change in the volume.

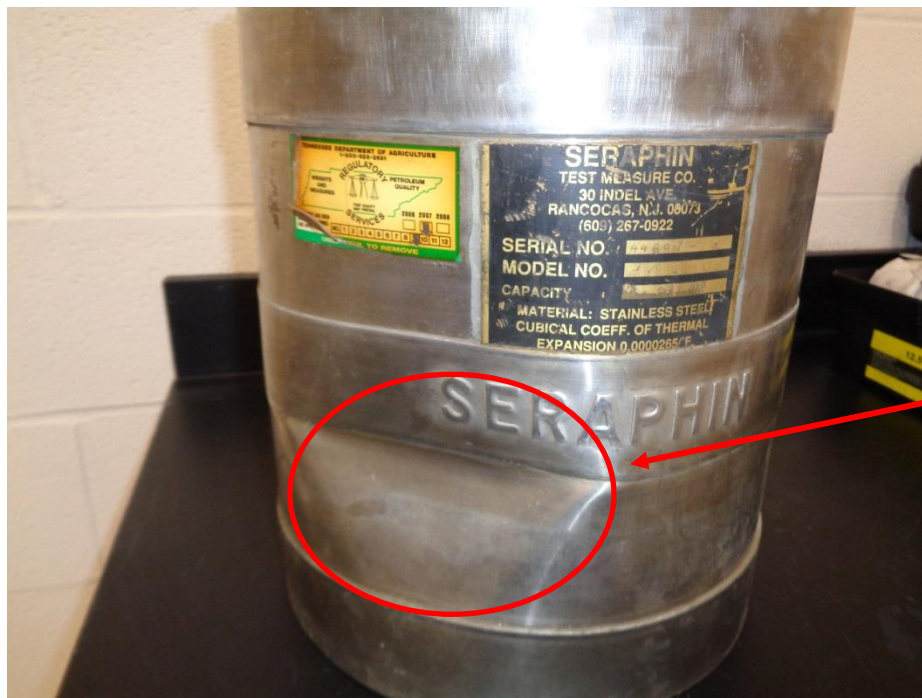
Dirty test measures will not be accepted. They must be free of chemicals or particulates. The inside of test measures may be cleaned with water and a non sudsing detergent and should not have a strong odor of petroleum or soap when finished. The outside may be cleaned with regular soap and water. There shall be no petroleum or soap residue remaining in the artifact.

Examples of Acceptable Test Cans





Examples of Unacceptable Test Cans



A dent of this degree will make adjustment impossible

Test can is dirty and dented.



Bottom band must be properly repaired prior to calibration

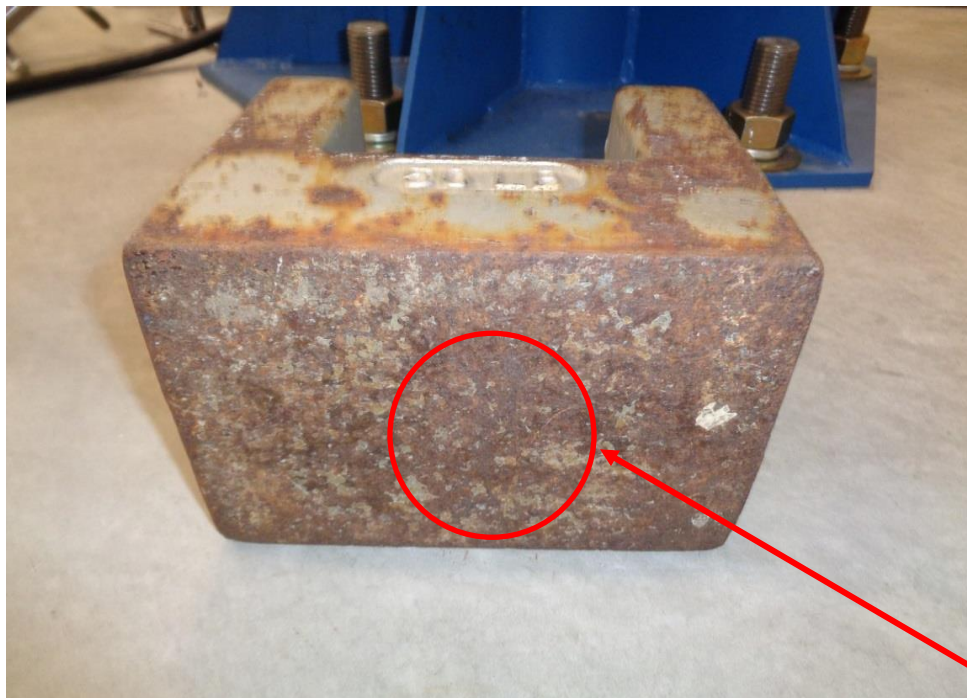
The band is unattached.

Examples of Acceptable Mass Standards





Examples of Unacceptable Mass Standards



Standard is severely
rusted and must be
cleaned and
repainted



Mass standards are dirty, rusty and paint is peeling.

Examples of Acceptable Test Weights



Examples of Unacceptable Test Weights



Brass weights do not meet specifications and will not be calibrated

Packing technique is unacceptable. Weights are damaged and not properly placed. The case is dilapidated.